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THE BLACKBERRY.

BY ANDREW S. FULLER.

THE introduction of the New Rochelle Blackberry was an event of considerable importance to horticulture. It is true that there were at that time other varieties in cultivation that possessed many valuable qualities, but the New Rochelle was such an advance in size that it awakened an interest in this fruit that had not been previously felt. The excitement created in regard to this variety may have been owing in part to the persistency with which Mr. Lawton pressed its claims for superiority upon the public notice, or because it was widely and extensively advertised; but whatever may have been the cause, it certainly has become immensely popular. Every horticulturist is probably aware that the popularity of a fruit is often dependent upon the manner of introduction; for if a variety is brought forward with much ado, and a considerable display of *printers' ink*, it is pretty sure of being widely disseminated; consequently it will fall into the hands of thousands, who, never having seen better, will believe it is the very best of its kind, even if it is not. Another point, which I fear is too often overlooked, is that of price at which a new kind is first sent out. One that is given away or sold very cheap is seldom appreciated; but if two or three dollars are paid per plant, they are quite sure of being well cared for, and as good culture is very often the secret of success, consequently many of our fruits seem to be wonderfully prolific and valuable only while they are new and scarce.

The New Rochelle has lost none of its original good qualities, but the depreciated value of the plant has taken away at least one half the incentive to good culture, and the result is seen in many a neglected plantation. Although it is still a valuable variety, yet it is not as good as we desire, for the fruit is too acid until fully ripe, at which time it is so very soft that it will not bear transportation to any considerable distance; besides, in many locations in the Northern States the plants are quite tender.

The Dorchester, which was about the only variety of blackberry in cultivation at the time the New Rochelle was introduced, is still extensively grown in many sections of the country. It is a very early and excellent variety, but in some soils is not very productive. The berries are also rather small to suit the popular taste, although in rich soils and under generous treatment they will average as large as shown in fig. 141. The Dorchester and New Rochelle blackberries, however, have been the means of calling the attention of fruit-growers to this class of fruits, which before their introduction were almost universally neglected. Several new candi-

dates for public favor have recently been sent out, among which the most promising are the following:

WILSON'S EARLY.

I confess to an agreeable surprise with this variety, for it has really proved to be superior to the high encomiums which were bestowed upon it by those who first disseminated the plants. The berries are enormously large, far excelling the New Rochelle, being much longer, and nearly or quite equal to it in diameter. Fig. 142 is an exact representation of a cluster of these berries, picked from a two-year-old plant. I have gathered many such clusters from plants set out this season, and its productiveness, even when quite young, is really surprising.

FIG. 141.—*The Dorchester.*

The extreme earliness of this variety is greatly in its favor. Following closely the raspberries, it fills a space in the season heretofore almost unoccupied, and affords an opportunity to the grower of small fruits of keeping his baskets and crates continuously in use. The berries all ripen in about two weeks, and the entire crop may be disposed of before the later varieties begin.

The Wilson's Early will doubtless become one of the most popular market varieties.

KITTATINNY.

This new wonder among the blackberries can not claim large size as one of its

merits, as it is not quite as large as the New Rochelle, but it is of far better quality, and probably the best-flavored variety in cultivation. The plant is also very hardy, and in my grounds not a cane was killed the past severe winter, while the New Rochelle and Dorchester were more or less injured. Although the Kittatinny is not the largest variety in cultivation, still it is larger than the Dorchester and some others, while at the same time it possesses other merits that will make it very

FIG. 142.—*Wilson's Early.*

popular with both producer and consumer. The introduction of these two new varieties (Kittatinny and Wilson's Early) will cause other choice kinds to be brought out if they already exist; if not, they will be produced from seed, and ere long we may look for the advent of a really good *thornless* variety. A blackberry plant without thorns, and yet possessing all the other good qualities, would be a great saving of dry goods, to say nothing about the scratched hands and hard words, either

uttered or suppressed, by those who are obliged to work among them. We have already a superb variety of the black raspberry (Davison's) which is thornless, and a blackberry possessing the same merit is a thing devoutly wished. There is one

FIG. 143.—*The Kittatinny.*

candidate for the honor found near where the original Kittatinny was discovered. Who knows but it will be a successful rival of its thorny neighbor? My plants of this new variety look well, and I wait impatiently for the development of fruit.

RURAL RESIDENCE.

BY CARL PFEIFFER, ARCHITECT, NO. 4 BROAD STREET, NEW YORK.

THIS design is given as one well adapted for a village or rural residence, where economy of space and expense are desired to be combined with an agreeable exterior and appearance of interior spaciousness.

This house was built at Hamilton Park, New Brighton, Staten Island, about four years ago, at a cost of six thousand dollars, and is one of the group of twelve (all different in design) alluded to in the May number.

It is built of brick, with brown stone trimmings and Mansard roof, with slate covering—has a basement, two stories, and an attic; and the attic affords good comfortable rooms, ten feet high, with an air space between the ceilings and roof. The side walls being partly formed by the Mansard roof, are back plastered between the rafters, and the slate is laid upon tarred paper. All these precautions were taken to prevent dampness, heat, and cold from penetrating too readily.

FIG. 144.—*Rural Residence.*

The basement walls are sixteen inches thick; those above are twelve inches, except the walls of the projections that form the hall and library, which are only eight inches.

The basement contains the kitchen, laundry, and store-rooms. The first story is so arranged that the several rooms communicate by large, double folding doors, and may be opened into one spacious interior, and still are accessible separately.

The projecting part of the library or bay extends up only one story, and forms a balcony in the second story. Though the dimensions of the hall are small, a cramped appearance is avoided by the Mansard roof over it forming a dome, giving a ceiling of

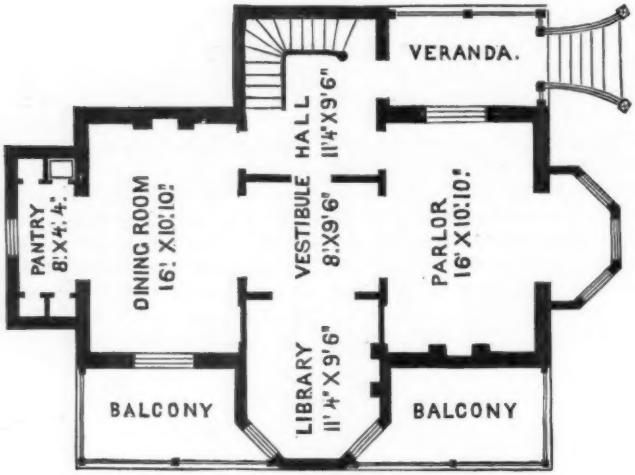

Fig. 145.—*First Story.*

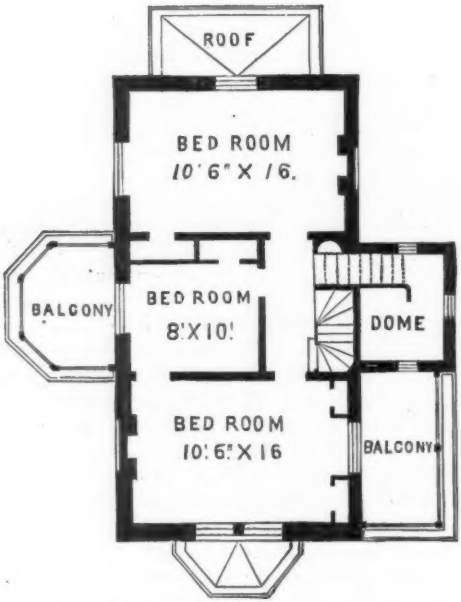

Fig. 146.—*Second Story.*

eighteen feet high to the hall, with colored glass in the skylight and dormer windows.

At the rear of the dining-room a bay is built out, one story high, to afford the closets of a butler's pantry and a dumb-waiter. All may be shut out by large double folding doors opening into the pantry from the dining-room, or the folding doors may be opened, and are so arranged that they will shut against the closets, and give the appearance of a bay window to the pantry corresponding to the bay windows of the parlor when the folding doors between the parlor, vestibule, and dining-room are opened, thus securing on a small scale that appearance of spaciousness so difficult to obtain at a moderate cost.

The second story has three, and the attic four bedrooms, making seven bedrooms in all, and also a number of closets. Added to these, the parlor, library, dining-room, and butler's pantry, of first story, kitchen, laundry, store and cellar-rooms in basement, it may readily be seen how it may meet the wishes of a family.

STRAWBERRIES.

BY WM. F. HEINS, PATERSON, N. J.

WHAT kind of Strawberry shall I plant? is a question as often asked as it is answered by advising to use those sorts most in favor with the parties questioned. I have raised many thousand seedlings, cultivated over one hundred and thirty varieties, carefully testing their character and qualities, have collected reliable information on the subject, of persons in different localities, and have come to the conclusion that the Wilson and Triomphe de Gand give, of all the native and foreign varieties, the greatest satisfaction in the largest portion of our country. I also find that for forcing under glass no sorts are superior to these two.

Every season brings us new seedlings, "truly splendid, superlatively magnificent," and each claimed to be "the Strawberry." Even old varieties, which perchance suit a very limited locality, are dished up in the full glory and capacity of our language as beyond anything ever seen or heard of; and pictures of the berries, as large as the space on the paper will allow, head the columns of praise, and are sent all over the country in order that no one may be deprived of an opportunity to secure so valuable a prize.

To satisfy myself what could be done in this style of "humbug," I prepared a bed twelve by twelve feet, in a peculiar way, and planted the La Constante, twelve by twelve inches apart, and by watering with liquid manure, shading during midday, etc., I produced astonishing results. Besides a quantity of smaller berries, I took from this bed one hundred and thirty-five, measuring from four to five and a quarter inches in circumference, all very fine and handsome-looking fruit. I must confess that this little plot put all my other varieties decidedly in the shade, and many visitors could hardly believe their own eyes; still, there were the facts. Now, this La Constante is of medium size only, can not endure in most localities our sun and heat, and is not suitable for general cultivation. But had I visited some of our fruit committees, and desired their opinion, they could in all honesty but have certified that the result before their eyes was certainly beyond anything ever seen before. Their certificate could then have been published all over the country. The result would have been orders for thousands of La Constante plants, and hosts of disappointed purchasers.

Let me name a few of my favorite sorts

besides the Wilson and Triomphe de Gand, and afterward give my mode of cultivation.

Agriculturist may gain by further trial, at least some portion of the value put upon its quality and character. Berry, good size, fair flavor; plant, hardy; flower, perfect.

Russell, flowers pistillate; productive, and fair flavor; not very handsome, and must be planted near perfect flowering varieties.

Brooklyn Scarlet, perfect flowers, hardy plant, handsome berry, and good flavor; not over-productive.

Lady Finger, good flavor, hardy, fair cropper, perfect plant.

FIG. 147.—*Agriculturist.*

Durand's Seedling promises well, but should be tested in many locations before being recommended for general cultivation.

Austin Shaker Seedling, large and handsome; no flavor.

Green Prolific, truly prolific, of large

size, fine appearance, but sadly deficient in flavor.

Jucunda—if the experience of others with this variety is the same as my own, it will soon be laid upon the shelf.

New Jersey Scarlet, medium size only, and flavor nothing to boast of.

Ripowan, fruit good size, not over abundant; no flavor.

French's Seedling, of good size and flavor, and prolific. I think it more suitable for the South than other localities.

Scotch Runner, a very valuable variety, particularly when planted closely in rows.

FIG. 148.—*Russell's Prolific.*

The fruit is not large, but of good flavor; not firm enough for transporting long distances; but it will grow and bear well without particular care where other varieties would fail.

To raise strawberries in perfection requires well and deeply worked soil, containing as much thoroughly vegetable matter as practicable. Leaf mold, wood ashes, charcoal dust, and sods are well adapted for the purpose. Fresh stable manure should never be used.

A location exposed to the full sun is most desirable. My experience has taught me that the fall, say September and October, is the best time to set out plants; the month of August is generally too dry. I find the runners more thrifty, and the young plants to become sufficiently established to endure the winter and yield a good crop the following season.

Many advise an elaborate method of planting, by making spacious holes and a little mound in the center, and then the

FIG. 149.—*Brooklyn Scarlet.*

roots spread out carefully over it. All this I think a useless waste of time. I have planted thousands of strawberry plants, and have lost but a very small portion. I take a short but thick dibble, two inches in diameter, make a hole, and after trimming the roots with a sharp knife or shears, I set the plant in the hole, close the soil tightly around the roots with both hands, pressing the plant firmly down at the same time, so that the heart or crown remains uncovered. By selecting a cloudy day, or

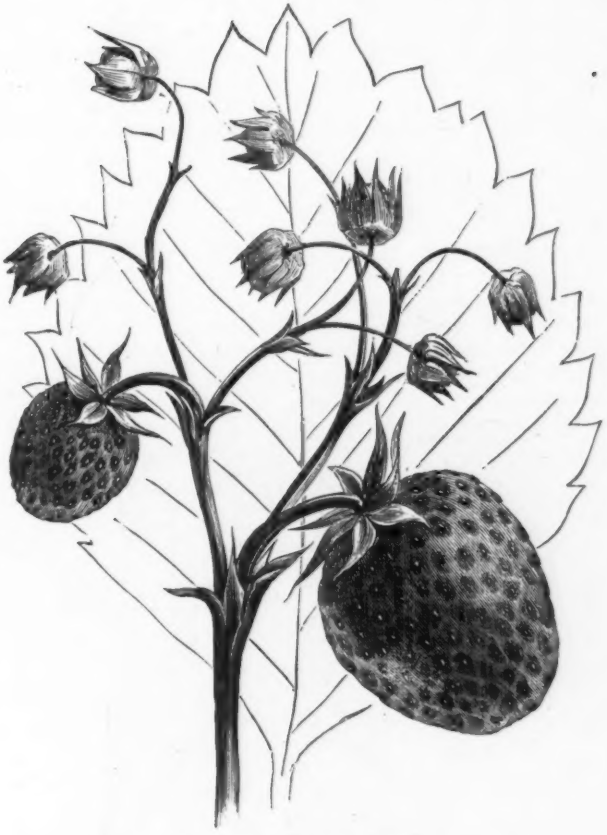

FIG. 150.—*Durand's Seedling.*

after a good rain, for planting in this manner, the plants will grow vigorously. For small plantations I find beds four feet wide, with paths of eighteen inches between, the most suitable arrangement. Three rows, twelve inches apart, are planted in each bed, the plants eighteen inches apart in the row, arranged in this form:

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All parts of the bed can thus be reached for picking the berries, pulling the weeds, and managing the runners. For field culture the rows should be three feet apart,

FIG. 151.—*Green Prolific.*

and the plants twelve inches distant in the rows. This space gives ample room for the use of the plow and cultivator when needed; and the fruit can be gathered with facility.

Late in the fall all runners are removed, the soil between the plants loosened, and all weeds destroyed. A dressing of compost is then forked in, if needed, and after a good frost, about the beginning of December, or even later, according to the season, the whole beds are covered one inch deep

FIG. 152.—*Jucunda.*

with salt hay. Straw, as it usually comes from the threshing machine, will answer if salt hay can not be procured. This covering is not to be removed until June, after all the berries are gathered. All runners are to be removed before fruiting. After the crop is over, a rake is used freely among the rows, and the runners are allowed free scope until late in the fall. The plants are allowed to bear three seasons, and are then destroyed. By making a new bed every year the rotation will be complete.

PROPAGATING PLANTS BY SUCKERS AND DIVISION OF THE ROOTS.

BY A. S. FULLER.

DR. ASA GRAY, in his "Structural Botany," page 102, defines a sucker as "a branch of subterranean origin, which, after running horizontally and emitting roots in its course, at length, following its natural tendency, rises out of the ground and forms an erect stem.

"The rose, the raspberry, and mint afford familiar illustrations, as well as many other species which shoot up 'from the root,' as is generally thought, but really from subterranean branches. Cutting off the connection with the original root, the gardener propagates such plants *by divisions*."

The above is a brief statement of the theory generally advanced by vegetable physiologists in relation to the origin of suckers—*i. e.*, that they are produced from subterranean branches, and not from true roots.

Now, while it is not my purpose to occupy any considerable space in this treatise in endeavoring to explain any theory relative to the propagation of plants, nor to provoke a discussion upon the origin of buds or roots, still there are some mystifying statements made by our best authorities on the subject that call for a passing notice. According to Dr. Gray's theory, the raspberry can scarcely be said to have any roots; at least it would be difficult to fix the point where branches end and roots begin, because one of these so-called subterranean branches, which is not more than one-fiftieth of an inch in diameter, will often produce buds and stems as readily as those which are larger. Other vegetable physiologists make the same or very similar assertions. Schleiden, in his "Principles of Scientific Botany," page 220, says that "no root is capable of producing buds." If this is true, then thousands of plants which we cultivate have no roots, inasmuch as there is not a portion of that which is commonly called root, however minute, that can not under proper circumstances be made to produce buds and leaves. Professor Lindley, in his "Theory of Horticulture," chap. X., while referring to this subject, says: "A cutting is only capable of multiplying a plant when it bears buds upon *its surface;* and as the stem is the *only* part upon which buds certainly exist, so the stem is the only part from which cuttings should be prepared."

According to this theory, cuttings made from the leaves are not only ignored, but should not be used, although we have every reason to believe that at the very time that the above paragraph was written there was scarcely a garden in England in which plants were not being propagated from cuttings of the leaves and from true roots, on neither of which could buds be discovered when taken from the parent stock.

To show how readily some writers promulgate theories founded upon what they may have supposed to be general principles, I will make another extract from the same page as the last: "And again, as the internode or space of the stem which intervenes between leaf and leaf has no buds, their station being confined to the axil of the leaves, a cutting prepared from an internode only is as improper as from the root."

It certainly may be very *improper* to make cuttings from the internode or from roots, still every gardener knows that with such plants as the willow, quince, poplar, etc., that not only will roots be produced from such portions of the stems, but buds as well. It is quite evident that the learned author (Professor Lindley) had

some fears that this theory would not stand the test among the practical men, for he adds: "It will occasionally happen that, owing to unknown causes, morsels of the true roots will generate what are called adventitious buds, and hence we do occasionally see the root employed for propagation, as in the Cydonia Japonica; but these are rare exceptional cases, and by no means affect the general rule."

But he has previously said that "a cutting is only capable of multiplying a plant when it bears a bud upon its surface." Do we really ever look for buds on the surface of the roots when making cuttings of the blackberry, raspberry, paulownia, catalpa, and hundreds of other plants which are being constantly propagated from pieces of the roots? It certainly makes but little difference with the results whether buds are to be seen or not so long as they are produced at the proper time. The assertion that there are only exceptional cases, consequently do not affect the

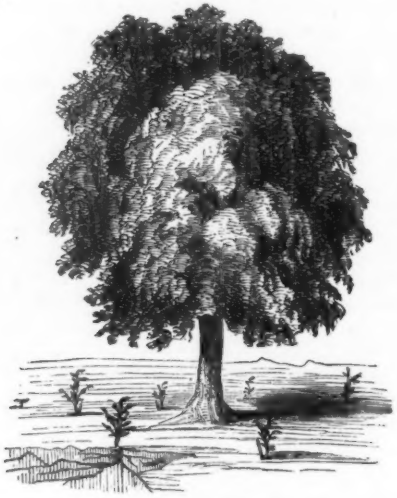

FIG. 153.—*Roots Exposed.*

general principle, has really no foundation, because we are not confined to any particular family or species of plants to find those which may be propagated from the roots. The tender geranium is as readily multiplied from roots as the paulownia, pear, or plum.

It is true that there are many plants which the most scientific propagator has not as yet been able to multiply from root divisions; but because all such attempts have heretofore been unsuccessful, is no proof that it can not be done, or will not at some future time. Why one plant possesses so much vitality that almost every portion, from the leaves to the most minute point of root, can readily be made to produce a separate plant, while with another every attempt at such a division is unsuccessful, can not be scientifically explained. The fact is apparent—the cause unknown.

There are many kinds of plants that produce suckers in such abundance that no artificial aid is required, except in separating them from the main plant at the proper time. But there are others which

require assistance, such as heading down the parent plant, or severing the roots, leaving them in the ground until suckers are produced.

This last method of propagation was practiced two hundred years ago more than at the present time. In an old work written by Moses Cook, in 1675, we find this method described as follows: "In the latter end of February or beginning of March dig round the trees you intend to increase from till you find such roots as before mentioned, and taking your knife, cut them three or four inches from the great roots, smooth at the place you cut off; then raise up that end, putting in the earth to keep it up, that when your ground is leveled again, the end of the root so cut may be two or three inches above ground." A tree thus prepared would appear somewhat as shown in fig. 153. New shoots will spring from the ends of the roots exposed. The next season the entire root, or only a portion of it, may be taken up with the plant attached. Mr. Cook evidently had not heard of the modern theory of buds not being produced or found on tree roots, as he gives this plan as a sure one for propagating most of the forest trees then in cultivation. When trees have been subjected to this mode of propagation for several successive generations, it increases their natural tendency to produce suckers, until with some kinds the habit will become a very troublesome, if not a decided nuisance; therefore, in such cases, it should never be resorted to if it can be avoided.

Plants that produce suckers can usually be grown from pieces of the roots, and this mode is practiced more generally at present than that of waiting for the roots to produce them without artificial aid. Plants grown in this manner are generally better supplied with fibrous roots, and assume more of the character of those grown from seed, therefore are better suited for transplanting. Root cuttings of hardy plants are usually made in the autumn, for the same reasons given for making cuttings of the ripe wood at that time.

The size of the cutting will vary according to the species operated upon, and the manner of keeping through the winter will also vary considerably; owing to the different structure of the roots, some will require more warmth and moisture to develop buds and roots than others, therefore each family or species will need a particular treatment peculiar to itself, which it would be difficult to explain under any general rule.

NEWMAN PLUM.—Mr. Elliott, of Cleveland, writes us that he has "received samples of the 'Newman Plum' from D. L. Adair, Esq., of Hawesville, Ky., and that the variety so sent is of a roundish-oval form, about one inch in diameter, clear light red, with a blue bloom, and until the fruit is fully ripe, there are numerous white specks or dots; flesh yellow, sweet, somewhat stringy, yet tender, and adheres to the stone, which is quite large for the size of the fruit. In my earlier days I frequently met with wild plums in Ohio, and have often done so in Missouri, that were almost if not quite identical, and in the years 1836 to '45, or thereabouts, they were abundant in the markets of all the Western towns and cities. Mr. Adair claims for it perfect exemption from the curculio—a matter of course of which he should know; but unfortunately for its chances in Ohio, I am disposed to think it would be no more free than any of our wild varieties."

FRUIT CROP IN CALIFORNIA.—An estimate made of the value of the fruit crop of California places the apple at about $400,000, the peach at $300,000, the plum at $160,000, cherries, apricots, and pears at $230,000, and grapes at over $1,000,000.

PORTABLE POULTRY HOUSE.

Almost every one is desirous of keeping a few fowls, and while they desire to give them fresh food, earth, etc., it is often difficult so to do, when kept in any stationary coop.

The accompanying cut, taken from the *Cottage Gardener*, presents a convenient and at the same time cheap design for use on small places, and we imagine will be of interest to a great number of our readers. It is exceedingly portable, as light as possible consistent with durability, and very economical of space, besides possessing excellent interior arrangements for the comfort of the fowls for roosting, laying etc. The nests are so arranged that any lady can collect the eggs without going inside the house. The open space under the house affords ample retreat for the inmates on wet days. The whole being mounted upon wheels, and provided with side fall-down lever handles, it can readily be moved about, and these houses represent one of the most useful improvements in poultry arrangements.

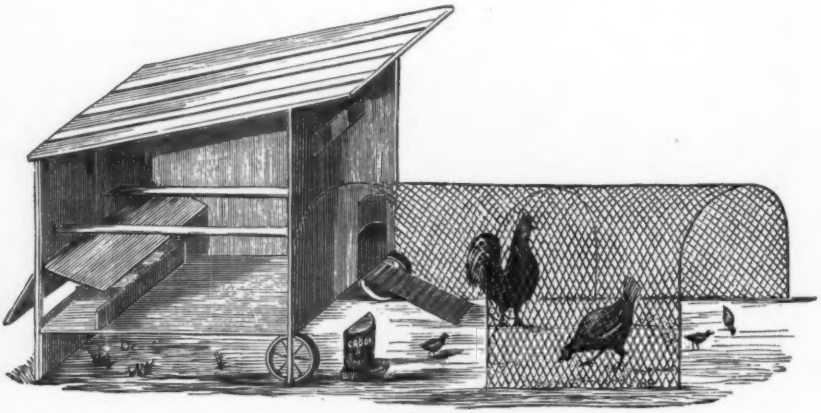

Fig. 154.—*Portable Poultry House.*

They are equally adapted to either garden or farming purposes, the land becoming enriched and cleared from insects at a small cost, with benefit to both proprietor and fowls.

Flowering Thorns.—When arranging for shrubbery planting this coming fall, the various flowering thorns should not be forgotten. Some years since our friend Charles Downing gathered together a beautiful collection of various shades of bloom, from pure white to a deep crimson, but the latter was only a single flower. At this present time the brilliant rich crimson tint is in existence in a double-flowering variety, which has been figured in the *Florist and Pomologist*, and is doubtless already in the hands of our leading nurserymen.

NEW SEEDLING STRAWBERRY NICANOR.

BY F. R. ELLIOTT.

RECENTLY, while attending the Strawberry Exhibition of the Western New York Horticultural Society, my attention was specially drawn to a seedling strawberry exhibited by Messrs. Ellwanger & Barry, of Rochester. The plant on exhibition had upon it two hundred and seventy berries, and the appearance promised so well as a berry for market growing, that I decided to visit the grounds of Messrs. Ellwanger & Barry, and see whether in the field it sustained the character of that on exhibition. Visiting the grounds, I found a field of ordinary common soil, about fifteen by twenty rods square, planted with strawberries, in rows three feet apart, and the plants about one foot or less in the rows, and the varieties as follows: some six or eight rows of Large Early Scarlet, then eight or nine rows of the Seedling, then twelve or fifteen rows of Wilson's Albany, and twenty or more rows of Triomphe de Gand. All apparently had received the same treatment, which was merely plowing the ground in the ordinary manner of farm plowing, before planting and after planting, keeping it decently, not perfectly, clean of weeds and grass. The exhibit was abundant on the Early Scarlet and on the Wilson, but the Seedling was one perfect mass of fruit—certainly one half more than the Wilson, and with the foliage upright and strong, enabling it to sustain and ripen all.

Upon inquiry of the man in charge, he told me that he gathered fruit from this variety at an earlier period than from Early Scarlet or Wilson, and also much later. As it ripened its berries gradually, its value in the market was much greater than that of the Wilson. According to Mr. Ellwanger, it was grown some six years since from seed of the Triomphe de Gand, and with the exception of a few plants kept for examination in their own grounds, the stock was placed in field culture to enable them to prove its value as a market berry.

The drawing herewith I have made without any special reference to size, but as near as I could to a fair average of the whole crop. As yet no public

FIG. 155.

notice or description has been made, and on my desiring to figure and bring it before the public, the name of NICANOR, or the Conqueror, was given, as one short and appropriate.

Leaf, large broad oval, of a deep, dark pea-green color, and deeply serrated.

Foot-stalks, long and strong, carrying the foliage very erect and high.

Fruit, medium, or above, in size; or from one to one and a quarter inch in diameter, regular and even rounded cockscomb form; surface glossy, firm, bright, deep scarlet red; seeds dark colored, moderately imbedded; flesh reddish, rich, sweet, and high-flavored; truss with long foot-stalks, and usually from eighteen to twenty-four berries on a truss.

Flowers, perfect, setting every berry without a failure.

As a market berry, while it is not perhaps any larger than the Wilson, it is more uniform in size, ripens more gradually, and carries equally as well, if not better. As a vine, it is among the most hardy, having very long, deep, and strong roots, and enduring the changes of summer and winter with impunity.

CLEMATIS.

BY JOHN SAUL, WASHINGTON, D. C.

In the June number of the Horticulturist, page 187, you have called attention to the importance of protecting the Clematis during winter, as recommended by that excellent horticulturist Mr. A. S. Fuller. The mode of planting, as recommended, in groups, is also good, especially when a little judgment and taste are used in arranging the plants—having due regard to color and vigor of growth.

My present purpose, however, is to draw attention to some of the beautiful new varieties that have appeared of late, and which may not be sufficiently known.

Clematis Jackmani.—This beautiful variety is the result of a cross between C. Lanuginosa and Hendersonii; a lovely, hardy climber, with large flowers of a deep bright violet, a very vigorous grower and profuse bloomer. Only requires to be known to be extensively cultivated.

Clematis rubra violacea.—A similar hybrid to the above, and raised, like it, by Mr. Jackman, but the parents were C. Lanuginosa and C. Viticella atrorubens, and differs chiefly in its intense narrow shaded reddish flowers, which are remarkable for their rich velvety appearance. *Equally* fine.

Clematis Fortunii—A very fine species from Japan, with large, showy flowers, which it produces in profusion, and are very striking at a considerable distance. Said to be much admired by the Japanese.

Clematis florida Standishii.—This fine plant is also from Japan, and one of the most beautiful of the family. The color of its flowers is rare and very beautiful—a kind of violet blue, with crimson and carmine shining through it.

Clematis Lanuginosa.—This beautiful species has been longer in cultivation than some of the above, yet not so generally known as it should be. There is also a fine white variety of this (C. Lanuginosa nivea), which will form an admirable contrast to the rich, deep-colored varieties.

Clematis fulgens, atropurpurea.—Princess of Wales and Rubella are beautiful varieties, but yet scarce, and not sufficiently tested.

NEW JERSEY STATE AGRICULTURAL SOCIETY—ITS COMING FAIR.

We learn from the editorial columns of the journals of our neighboring sister State, that this time-honored association, after a rest of several years, is about to hold a fall exhibition on grounds of their own, situated between the cities of Newark and Elizabeth. It is with very great pleasure that we are able to announce this fact, for we have not heard from this association in the way of an exhibition since the commencement of the war of the rebellion; and we have a conviction that, from the high character of the gentlemen at the head of the association, they will attempt nothing that will not prove in every way successful and creditable to themselves and their State. Though this Society have held no fairs for the period mentioned, they have not been idle in the good work, but, on the contrary, have been zealously though silently pushing on the development of the agricultural resources of the State of New Jersey. It is mainly by their efforts that the geological survey of the State has been carried out, resulting in the brilliant discovery of their enormous marl beds, priceless in their worth, and contributing to the wealth of the State what

seems at sight to be almost fabulous. Petroleum and California gold are lost in the comparison, for the amount of capital employed in getting at and distributing this treasure is as with the result insignificant. We learn, too, that this Society, for the purpose of better carrying out its beneficent designs, has become a joint stock association, and now numbers among its stockholders or members some of the best and most influential men of the State. Their officers are gentlemen whose well-known characters and social position give every assurance that their Society will not degenerate, as has too often been the case, into a mere horse affair, and their exhibitions turn out only horse-racing shows; but that a careful regard will be had to the true agricultural, horticultural, and industrial interests of the State, the horse taking only his proper position in connection with these.

The officers of the Society are now calling upon the stock breeders of their State, their manufacturers and mechanics, and all interested in agriculture, horticulture, pomology, and the domestic and household arts, to get ready for their fall exhibition, to be held on their own property, where they intend to lay out very extensive ornamental grounds, and to erect suitable buildings for a permanent establishment. Their idea seems to be to build up a bureau whose usefulness shall be commensurate not only with the interests and wants of the State, but with those of the entire country; and in this we can but wish for them the largest and fullest measure of success.

This exhibition, we learn, will come off about the third week in October, and as the time fixed is so favorable for a good display of fruits, we do hope that our nurserymen and amateurs will take note of this, and now that New Jersey is considered by New Yorkers as no longer foreign soil, that they will compete in the display of fruits, and show to our friends of the sister State what New York can do in the way of apples, pears, etc.

The premiums, we are told, will be on an increased scale of liberality, and outside competition in the way of fruits fully courted. Let us then show them what we can do.

We would suggest to those who may wish to exhibit fruit at the exhibition of this Society, or to communicate with them, that Col. R. S. Swords is the corresponding secretary, and his address is No. 264 Broad Street, Newark, N. J.

HAMILTON COLLEGE GROUNDS.

In vol. 4, New Series of the Horticulturist, page 276, is a diagram of these grounds, with a notice of some improvements then contemplated. The trustees had placed the matter in the hands of a committee of gentlemen whose taste and experience are not wholly unknown to many of our leading men in horticulture. About one thousand dollars were placed at their disposal by a few friends of the improvement. The Committee continued in charge of the grounds for three years, and in that time arranged a system of walks, removed many unsightly objects, and improved the surface grade of the whole grounds. The work was commenced during the presidency of Rev. Dr. Simeon North, who gave the undertaking his hearty approval. In this improvement was opened a new means of student culture, by a display of tasteful and elegant grounds, cultivating a taste for landscape gardening and a love of the beautiful. One can hardly over-estimate the value of such culture in our schools and colleges.

So far as we know, Hamilton College first began this work among our colleges. The Committee, appreciating its value, de-

termined to make it a first-class work. A large number of fine and rare plants and shrubs were set out, and many leading horticulturists were interested in the matter. From Charles Downing, of Newburg; from Messrs. Ellwanger & Barry and Messrs. Frost & Co., of Rochester; from H. W. Sargent, Esq., of Fishkill; Messrs. Hovey & Co., of Boston, and others, valuable contributions were received. In 1858, the executive officer of the College was changed, and the new incumbent claimed the control and proceeds of the grounds. In consequence of this claim the Committee resigned to the trustees who appointed them the care of the grounds. Their resignation was accepted, an assurance being given that their plans should be adhered to and carried forward. Since this time until within the last year the College executive has controlled and directed all work, and it is a matter of deep regret that so little has been done. The only improvement has been in the growth of trees and shrubs previously planted. The planting done has been more than counterbalanced by losses, occasioned by neglect—losses of rare shrubs and plants not easily made good. Cattle have, by browsing and scraping, injured the growth and beauty of some trees yet living—the clean cut line of the walks is obliterated, and the lawn has become a meadow. Minor matters may be replaced by renewed care, but the eight years lost time, in the planting and growth of trees, can not be regained.

During the past year another change has taken place in the executive office, and the trustees of the College have requested the former Committee again to take charge of the grounds. These gentlemen are still full of interest in the work, and announce their determination, so far as they have means, to push on the improvement. Many friends of the College, noticing the improved condition of the grounds during the commencement season, which has just transpired, are led to expect good results in the year to come.

But for success the Committee must have means.

We deem this a matter of interest, not only to friends of this College, but to all lovers of horticulture and friends of progress in this direction. The writer of this article has heard college and school trustees in the Far West speak of the Hamilton College grounds as an example to be followed. May it not be possible for a fund to be established, through some friends of the College, the income of which shall enable the Committee to carry out their plans and make these grounds, so beautiful even now, a model worthy to be admired and copied?

THE NEW YORK HORTICULTURAL SOCIETY

To the Editor of the Horticulturist: Recent allusion in your pages to the importance of a society devoted to the encouragement of horticulture in the city of New York, recalls the efforts made some years ago to secure that object. Do we live so rapidly in this country as to forget in the brief space of ten years the existence of an incorporated society, holding extensive annual displays of fruits and flowers, at which the most gifted of New York divines and orators were at times induced to expatiate on the value to the community of such means of pure recreation and enjoyment? Are the active members of that association no longer to be met with in the leading thoroughfares of that great city? Are the names of Shepherd Knapp and Wilson G. Hunt forgotten among your merchants?

The reminiscences of the New York Horticultural Society must be written up for the benefit of those who at this day think it advisable to inaugurate a new society.

It was the boast of the very indefatigable Secretary, that the old Society, though in a very faint condition, would survive at least as long as he should. He still lives. What has befallen his ward?

My object in touching this topic is to point out the difficulties which stand in the way of a metropolitan horticultural society, or rather to warn the restorers of the Society, whoever they may be, of the incongruous elements which are generally called together in the formation of such societies; to hint the question whether the practice of paying money premiums to gardeners for the exhibition of their employers' fruits and plants is a safe and proper mode of proceeding? Is the emulation produced between gardeners of a healthy nature, and worthy of encouragement? Is not the interest of the commercial horticulturists the controlling power in all such societies? Are such exhibitions and displays, as are generally produced by our horticultural societies, promotive of the real progress of horticulture?

We do not propose at this time to offer our *own* views on these important points, but should the editor of the HORTICULTURIST desire the data on which we would discuss these questions, we shall freely furnish the same. Having been temporarily an active and enthusiastic member of the New York Horticultural Society, we should like to learn the causes of its failure from those who ran the machine in the later days of its operation. Can not your worthy friend P. B. M. give us some light?

A COSMOPOLITAN MEMBER.

A CHAPTER FOR LADIES ON GATHERING AND ARRANGING FLOWERS.

THE reason that people so often fail in arranging flowers is, that they put all the brilliancy together, and perhaps relieve it but slightly, or not at all, with that verdure which abounds everywhere in nature where flowers most charm us. Many persons go into the garden, and, gathering a lot of flowers, stick them closely into a vase of some kind, nearly as close, perhaps, as a broom is tied up. This results from their not seeing the reason why prettily marked flowers please us when set, so to speak, in wide spreads of rich verdure. The result of such a jumble is, that the product is about as attractive to the tasteful eye as a garden all yellow and red; and what should be the sweetest thing in the house is painful to look at compared to a flower and spray depicted on the vase which contains it, or perhaps on the wall of the room. As a rule it may be said that, by using a sufficiency of green, we could get rid of much of this awkwardness, and though it may not enable people to arrange flowers really well, yet a great advance is made when we recognize the value of green. If you see a person who is about to arrange a vase of roses bring in a handful or two of the freshest and finest rose-leaves in the garden, you may be pretty sure that the roses will not look amiss when he or she has done with them. When arranging a dish of roses with short stems, we always begin by putting a circle of large and fine leaves around the edge (fern fronds are better), so that their points droop over; and by putting a profusion of them through the blooms, an infinitely better effect may be produced with half, or even quarter the number of blooms, than when they are "lumped in." But it is not enough to avoid what we will call lumping: it is desirable to give each flower its own place, so to speak. This is to some extent a mechanical operation, as in vases generally there is no resisting medium on which to place the flowers. You can not arrange them rightly without some little contrivance. For a flattish vase or dish, the best thing we know of is silver, or any other

fine sand, in a very moist, though not actually in a sloppy state. This forms a capital planting medium, so to speak, and at the same time keeps the flowers fresh—at least, as much so as water does. By filling the dish or vase with sand, full or thereabouts, and then when moist rounding it up a little in the middle, you have as good a preparation for the reception of flowers as can be made. Insert the flower-stems in it to the required depth, first having pointed them and stripped them of the lower leaves; and as the height of each bloom is of some moment, they may often require to be shortened, which should be done with a sharp knife in a slanting direction, and that will assist them in penetrating the sand with facility. By doing this you have the disposition of your flowers quite under command. If they be of a trailing or decumbent habit, it will be necessary to sink them nearly to the necks; and if they be of an erect or stiffish habit, like geranium or sweet-pea blossoms, they may be left as long as may be desired or convenient. Flowers, green leaves, graceful grasses, or any other addenda, may be thus placed at discretion. If a coat of the common lycopodium be placed over the sand, so much the better; it would act as a capital resting-place for the flowers, and do away with the necessity of using a good deal of small stuff to fill up the interstices. Indeed, a lot of long moss or spray of twigs cut to a level top and plunged in a narrow vase has often been successfully used instead of sand. Then again, where the receptacle for flowers is very shallow, like the lower tray of some ornaments for table decoration, a little sand is all that is necessary; but it should be borne in mind that such trays are suitable chiefly for flowers that may be cut short, and for little bunches of forget-me-not, lycopodium, and things which will form erect and somewhat compact little tufts, with short fern-spray, etc. Sometimes rather close little wire coverings are used for dishes and vases, and these certainly support the flowers well, and do away with the slightest necessity for crowding, but yet are inferior to the soft, moist masses of sand. It has just occurred to us that by growing the common lycopodium in dishes till it attained luxuriance, and then bringing them into the house, they would form capital cushions on which to place a few choice flowers. Indeed, we have no doubt of it. By filling the dish with very fine sandy peat, passed through a fine sieve, and rounding the center considerably up, pricking the common lycopod over the the surface, and placing the vases in a warm vinery, fernery, or moist and rather warm structure of any sort, in a month or two they will become masses of green, and droop over the margin of the dish. It may be propagated thus to any amount, as every bit grows as freely as grass. Half a dozen really good flowers inserted in this—and the pointed stems would pass as readily into it as into the sand—would afford a charming effect; and with a few bits of graceful ferns to counteract the lumpy appearance of the moss, it could not fail to be admired. The lycopod would look well for a long time, and when it faded or became dusty, others could be introduced from the stock so readily propagated. The dishes should have a hole in the bottom for the water to escape into an outer case. Of course this is quite inapplicable to costly, tall, or elegant narrow vases, but it would suit to a nicety low dishes for roses or any other flowers; and such are the most useful for general purposes, as by their judicious use you see the beauty of the flowers, and that alone—which is generally a gain. For the tall vases we have often used sand; but where they are too fragile or expensive to risk breakage by filling them with heavy material, it is better to cut a bunch of some kind of spray—say box, yew, or any small-leaved plant—and trimming it off, put it in the vase, so that its top is about level with that of the vase, and on that surface the flowers may be inserted thinly and firmly as you please.

From the above it will be seen that we

have a horror of the bundling system. Every flower should stand distinct in the arrangement, and it is also very desirable to avoid the crowding in of too many colors into the one vase or dish. A few simple flowers, carefully selected from the woods or ditches—say the hawthorn, the forget-me-not, the wild grasses, the meadow sweet, the marsh marigold, etc.—a select few, observe, not too many kinds, and well arranged—will produce a better effect than all the flowers and colors of the garden lumped together. Quiet sweet things, like mignonette, may be used in abundance as a sort of groundwork for the display of brighter flowers; and why not bunches of it for insertion into the necks of vases as well as the evergreen spray we named above? Decided colors should generally be grouped distinct from those of a quiet tone; but so varied are the forms and colors of the flowers of our gardens that it would be folly to be tied by any rule except this: Place the blooms thinly, and in the midst of refreshing verdure, as Nature does; the brighter the color, the more green should, as a rule, be employed. The procuring, or rather the selecting, of this green is an important point. Ferns of many kinds are valuable, but many other plants are equally so. Of the ferns, the apex of the fronds of the common male fern are highly suited for dressing the margins of large vases, dishes, etc.; while for more delicate work there are innumerable kinds in the way of the maidenhair, and, in fact, every elegant fern may be used. Where there is much decoration of this kind to be done, it is well to grow a few of the most suitable kinds in some quantity for cutting at all seasons; but, generally, the spray of the more elegant conifers, such as cupressus nootkænsis and others, the arbor-vitæs, the neat and pretty new retinosporas, and, in fact, many things in this way will be found most valuable. They last much longer, are to be had in a fresh and green state at all seasons, and often furnish quite as graceful an effect as the ferns. Some of the better lycopodiums, too, or selaginellas, as they are called, are among the very best things that can be used, and in a warm place grow as freely as weeds. Finally, the selecting of the flowers and the cutting of them is worth a thought. The right way to do it is to gather a few suitable kinds in distinct little bundles—whether fern, foliage, or flowers—and then, when placed on a table, the arranger has simply to take the flower or frond he wants—a thing not easy when all are gathered in a promiscuous bundle. Another word: fail not to use the fuchsia and other pendulous flowers for drooping over the margins of all but the lowest dishes, to produce a charming effect.

Since writing the above we have seen large, very large vases, and very expensive, too (6,000 and 7,000 francs apiece), in Paris houses, filled tastefully with flowers—a capital medium for the insertion of the stem being found in rich flakes of deep moss, a layer well moistened being put in the bottom of the vase, and over that another layer with only its natural moisture. The flakes of thick moss are placed in just as they grow, and thus the flower stems pass down into them with the greatest ease. It must, however, not be supposed from this hint that the French always arrange flowers well; they do rooms, etc., for festive occasions charmingly, but bouquets are far more tastefully and beautifully done in Covent Garden. The other day a French countess presented to Mdlle. Patti a bouquet about the size of a sponging bath; if any lady took it about with her it must be in a refined sort of wheelbarrow; and many of the best bouquets to be bought in Paris display no taste or knowledge of arranging flowers.—*The Field.*

Cuttings of geraniums, heliotrope, verbenas, salvias, etc., made now and placed in a cold frame in a shaded situation, will make fine plants for wintering over.

A FEW CHOICE ROSES AND PYRETHRUMS.

Recently visiting the grounds of Messrs. Ellwanger & Barry, Rochester, I saw about five acres of Roses in bloom, and examined and made notes of many varieties. The Hybrid Remontants have now become so much and so general a garden feature that perhaps it may not be amiss to name a few of what I consider the very best.

Imperatrice Eugenie is certainly the best white yet out—a free bloomer, good strong grower, and a beautifully cupped flower. It is new. Delephine Gay is an older sort, but its clusters of light flesh-color flowers are beautiful.

Auguste Trice is a fine light rosy pink, while Gen. Jacqueminot and Richard Smith are all brilliancy, the former a full flower, the latter only semi-double, but extremely rich and velvety in its petals. Victor Verdier and Madame Victor Verdier are both beautiful, clear rose color, globular, and free bloomers. Prince de Rohan is only semi-double, but its petals are very dark velvety and rich. Christian Putner is a superior dark variety. Senator Vaise is another very dark, yet rich crimson flower and plant, a free bloomer. General Washington, Maurice Vernandi, and Duchess of Norfolk are all superior dark varieties, rich in color, and good bloomers. Reine de Vierge is a purplish rose, very handsome. Sydonie, although one of the old sorts, is among the best of those of a light pink shade. Baron Provost and its sport Panachee d'Orleans are old, but yet most beautiful and desirable. Among the old June Roses, Aurette is elegant; while of the moss varieties, Madame Edouard Ory is the most certain and constant bloomer; but for beauty of bud none yet equal the old Crested Moss.

So much for Roses, and now of new Pyrethrums. All know the common double-white, or Feverfew as it is commonly called; but here I saw, for the first time, in full bloom, a collection of new varieties, with the flowers of the size of half a dollar, and as double as the best China asters. The colors were pink and its shades straw-purple, etc. To me these varieties, which are all as hardy as the old well-known sort, must soon come largely into demand, as a bed of them would form a perfect bouquet in itself during the whole season, and require no care except that of simply keeping the ground clear and well-stirred around them. I will name some of the best varieties, in order that any reader who desires to obtain them may know for what to send. They are Herman Stinger, Madame Mons. Lovitz, Mr. Pell, Madame Billiard, Pompon Rose, Beauty de Laken, and Gustave Heitz.

F. R. E.

GRAPES ON THE LAKE SHORE.

Mr. Elliott writes us, under date of August 10th, that he has "recently visited very many of the large vineyards along on the south shore of Lake Erie, and that as a rule the crop promises very abundant, and with but two or three exceptions no rot of any amount has exhibited itself. The vineyard of George Leick, at Collamer, east of Cleveland, of about thirty acres, is especially vigorous and healthy; and so also a small vineyard of Mr. Pellot, some twelve miles west; while the extensive vineyards of E. Boyd, at Avon Point, numbering something more than one hundred and thirty acres, are as vigorous, healthy, and promising as could be desired. In

these Lake Shore vineyards the Catawba is the leading variety grown; but a fine vineyard of three acres of the Delaware, on clay ground, highly enriched with bone and slaughter-house manure, may be found on Captain John Spalding's farm, just west of Cleveland; and in other locations the Delaware, with high manuring of specific manures, is a good grower and great bearer. The Rogers' varieties, Iona, and many more, as Ives, Norton, etc., are planted more or less by almost every grower; but their value, as compared with Catawba and Delaware for wine, is yet to be tested in that vicinity. In Mr. Leick's grounds the Norton gives promise equal to the best results in Missouri; and some fifty or more vines, fruiting in the grounds of Mr. John Hoyt, have ripened their fruit for several years earlier than Catawba, and of superior quality for wine."

EDITOR'S TABLE.

To Contributors and Others.—Address all Communications, for the Editorial and Publishing Departments, to Geo. E. & F. W. Woodward, 37 Park Row, New York.

Clarke Raspberry.—G. W. Campbell, of Delaware, Ohio, writes us in relation to this raspberry as follows: "I am happy to be able to add my testimony as to the *hardiness* of the Clarke Raspberry, as well as to its great excellence. It endured 25° below zero here last winter, fully exposed, and came out this spring wholly uninjured. I find it quite distinct from the Kirtland, being of better flavor, a little firmer, of larger size, stronger growth and foliage, and apparently equally hardy. All things considered, I regard the 'Clarke' as the most valuable red raspberry within my knowledge."

Vernon, Oneida Co., N. Y.

Messrs. Woodward: I have been thinking of writing you for some time of our trials and troubles with fruits, flowers, etc., in central New York this season, but have not got to it yet. And by the way, is Clematis *Sophia* hardy enough to remain out *here* during the winter? and can you tell me why Wistaria *floribundus* (big name), one I bought of W. R. Prince, of Flushing, some nine years ago, has never blossomed? It grows finely, but has never shown a blossom bud yet.

[Clematis Sophia will endure the winter well in your climate, if protected as described by A. S. Fuller in "Record of Horticulture," that is, taken down and coiled around the foot of the stakes, and three or four inches of coarse litter, such as straw and leaves, thrown over them, and over the whole a few shovelfuls of soil. The buds of your Wistaria are probably winter killed. We should protect in the same manner as for the clematis, and also pinch back young side-shoots in July or August, to form spurs on which flower buds will appear year after year.]

Frogmore Early Bigarreau Cherry.—The London *Florist* describes a new cherry under the above name, as being "large, obtuse heart-shaped; skin with a brilliant red cheek, dotted with minute yellow points; flesh delicate, translucent, tender, melting, juicy, with a rich sweet flavor," and ripening before any of the so-called Bigarreaus are in market.

MANHATTAN, RILEY CO., KANSAS, *June* 8, 1867.

EDITORS OF HORTICULTURIST: In a brief communication published in the December number, 1866, I alluded to the cause for disease in the grape, assigned by the "Lake Shore Grape-Growers' Association." REUBEN (who ought not to be ashamed to write such spicy and useful articles over his real signature), in the February number, 1867, page 50, attempts to correct an error into which he alleges I had fallen. If I was in error, it was the HORTICULTURIST'S article alluded to that led me astray. Reuben asks if I did not get "a little mixed up," and as he read their views, "it especially applied to *rot*, and not to mildew." The article in the HORTICULTURIST says, "The cause of disease in the grape, rot, etc." I inferred that "etc." would include mildew.

Where the grape is infected with disease, it is natural to suppose that grape-growers would investigate the cause of disease; but in middle Kansas, where a few berries on a few bunches of a few vines have mildewed but once since the first vines were planted (1856–7), my thoughts were not directed to this subject as much as where mildew is prevalent. When I planted my first vines, I knew nothing about the cultivation of the grape; but I have since read all the authors I could procure, and made some observations, and have been led to believe that where the ground is suitably prepared (not too deep here), the soil adapted to the growth of the vine, and roots that are *perfectly* healthy when planted, that we can here grow grapes a great many years at least without their health being affected. My observations have been confined to my own vines; and with me, vines that were propagated from green wood, or one-year-old canes, when not root-pruned at the time of planting, have often shown the yellow leaf, although I have four-year-old vines that were propagated by layering green wood, that so far the foliage is of the natural verdant color, but they were *very* closely root-pruned, about one or two inches only of wood left from the collar. I have not yet produced any green wood layers that were not root-pruned that have lived over three years without showing the yellow leaf, and in a few years they nearly all die. Commencing with the yellow leaf, the growth ceases, the leaves dry, and they are numbered among the things that were. While, on the other hand, the vines that were propagated from sound bearing wood, raised in autumn, root-pruned to within one foot of the collar, heeled in, and planted in spring, have presented no sickly appearance, although such vines, propagated on my grounds, have been planted every year since the spring of 1858. I might here add, that I do not cut away as much wood when pruning as is the practice of some vignerons.

There are a great many wild vines growing along the Big Blue River, especially among the timber and "bushes." I cleared a few acres in 1856–7, including a thicket of wild summer and frost vines. In many instances rampant sprouts of the vine started from the wood of the vine remaining in the ground, and during unfavorable years I have frequently observed many of these new canes covered with sickly yellow leaves, but in no instance have I observed the unhealthy hue on vines that were rambling at will over shrubbery. You may find some who will tell you that they have seen yellow leaves on vines which were running, "as they liked best," over bushes, etc., but I speak of vines that were never injured by fires that annually sweep over the prairies, and sometimes extend to the bottom. It might be well enough to say that vines with yellow leaves, on land where they have been cut off or burned and sprouted up again, are few, very few, yet I have found some. The vines generally present a healthy appearance.

Taking these observations with the fact that one-year-old roots have immature wood, and when this immature wood is planted, whether produced by layering

green or ripe wood, it must rot off, and rootlets can not start from the end of the root until it is decomposed, might I not, in my ignorance of the disease of the vine, reasonably infer that there is a possibility that the decaying wood communicates a weakness to the vine which may not show itself for many years after it is planted, until conditions are favorable for developing it? I have had vines that would show yellow leaves every alternate year, and afterward die, but not in *good* roots, properly root-trimmed in the fall, and planted in situations favorable to the healthy development of the vine. Disease may linger in the human frame for years, and at times the patient and his friends may imagine that he is in a fair way of recovering. So far as external appearance is concerned, he looks as if he is convalescent, but the germ of disease is lurking in his body, which sooner or later consigns him to his final resting-place.

It is said that in districts subject to disease, weak vines are more liable to disease than strong, healthy plants, and that fungi derive their sustenance on dead as well as on the living vegetable matter upon which they grow. Might not the *living* vegetable matter be partially decayed, yet to the human eye appear to be living matter? If this is so, might not the seeds of the decay be sown by planting the immature terminal roots, or severely top-pruning the vine, which results in a proportional amount of the roots decaying; and in this way the vigor of the vine becomes weakened, when disease, the same as with the human system, could take a hold with greater ease? May it not be a hidden constitutional weakness in the plant that enables the mildew, or any other disease, to grasp the vine with facility, while a vigorous vine would resist the effort to seize and lay it prostrate? In short, might not the great primary cause of much, if not all, of the disease of the vine, aided of course by other agents, be attributed to a constitutional weakness of the plant, and, like poor, frail human nature, the infirmities of the parent vine be clandestinely visited upon the offspring "unto the third and fourth generation?"

My experiments and reflections relating to the vine have not been with its diseases. The opportunities for such investigations have not been presented to me, on account of our almost entire exemption from mildew or any disease of the vine except the yellow leaves, which occasionally make their appearance when the conditions are unfavorable to the health of that plant; therefore my ideas must be very crude, perhaps without any foundation from which to draw inferences; but in the vine districts where disease has prevailed, there are doubtless many scientific men who have given this subject some attention, who can remove our erroneous views, if such they are, and plant in their place correct ones. Excuse the space, although I have been as brief as I possibly could to make myself understood.

I am, truly, etc., A. M. Burns.

Dahlia Imperialis.—The *Floral World* advises managing the Dahlia Imperialis, for the purpose of getting the most blooms and receiving the most pleasure from it, as follows: "At the end of September, or some time before the 20th of October, we carefully take it up, give it a good-sized pot, and place it in a warm green-house, which is kept closed, to recover the plant from the lifting, and in due time we transfer it to the warmest part of the conservatory. Let it be kept growing on in fact the whole year round, and take care to strike a few cuttings in April every year for planting out. Thus it may be made to do double duty and give double pleasure."

Suckers on budded roses should be carefully looked after and rubbed out. They often start strong in the fall, or when the roses are about to make renewed growth and bloom.

New Plants.—We have elsewhere alluded to *Sanchezia nobilis variegata* as being probably the best novelty let out during the present spring, and may, therefore, here pass on to notice other acquisitions of merit, among which must not be forgotten the *Double Crimson Thorn*, recently figured by us. Another prominent place among the novelties of the season must be accorded to *Amaryllis* (*Hippeastrum*) *pardina* (Bot. Mag., t. 5645), one of Messrs. Veitch & Sons' introductions from Peru. This Amaryllis is one of the broad-petaled species, with a very shallow tube, and the segments spreading out to form a wide open flower, showing off its very novel coloring to advantage. The color is a pale straw yellow, spotted all over with small irregular more or less confluent blotches of crimson, the markings being exactly analogous to those which occur on many varieties of Calceolaria or Tydæa. It is a very beautiful plant, and is quite an acquisition among stove bulbs.

Among stove terrestrial Orchids a very pretty species has been published under the name of *Bletia Sherrattiana* (Bot. Mag., t. 5646). It is a native of New Grenada, and has vertically flattened pseudobulbs, plicate leaves, and racemes of large bright purplish rose flowers, a dozen or more together, of delicate texture, with broad petals and a beautifully marked lip. The habit is that of B. verecunda. The lip is large and flattish, three-lobed, with large rounded or reniform side lobes, and a transversely reniform terminal lobe, which is deeper colored than the rest; the center is pale-colored, and marked with three parallel golden lamellæ or crests, from whence purple veins radiate into the side lobes. It is an important addition to the ranks of terrestrial Orchids. Another acquisition, just flowered in the collections of Mr. Dawson, of Meadow Bank, and Mr. Marshall, of Enfield, is the New Grenada *Odontoglossum roseum*, a small-flowered plant having blossoms wholly of a pretty rose-color, and which is a very ornamental object. M. Regel figures in the Gartenflora a desirable-looking hardy perennial, named *Primula luteola* (t. 541), which may be compared to a yellow-flowered P. denticulata, the leaves much resembling those of that elegant species, and the infloresence being also similar in character, though the flowers are a trifle larger. It was discovered in the Caucasus by Ruprecht, growing abundantly in moist situations at a considerable elevation, and was raised by him and given to Mr. Buck, of St. Petersburg, by whom the specimen was flowered. The leaves are six inches to a foot long, with margins recurved, flowers pale yellow, with a dash of golden yellow about the throat. Blooms in August.—*London Florist and Pomologist.*

How to Take Impressions of Plants.—The advantage of being able to take accurate impressions of plants without much labor need not be pointed out to those who can appreciate what is useful. It is not brought forward as a substitution for dried specimens, where these can be obtained and attended to; but as being less cumbersome it deserves notice, as a means of refreshing the memory, in very many instances, in a manner equally satisfactory as when specimens are employed. It has, further than this, no claim to novelty, but simply to usefulness.

The materials required are few, and these not expensive. One pennyworth of lampblack and one pennyworth of sweet oil are all that will be required besides the paper. A large sheet of paper should be provided, and this should be prepared by rubbing it evenly all over with a piece of flannel moistened with the oil; this must be done thoroughly, and when the paper is well moistened, but not in a wet state with the oil, a small quantity of lampblack should be laid evenly over it, also using flannel for this part of the operation. If this preparation can be made a day before using the paper, it will be so much the better. The next process requires great care. Having the prepared sheet in readiness, place on it

evenly and flatly the plant, flower, or leaf of which an impression is required; then place over this a dry sheet of paper, and with a handkerchief or cloth press firmly over every part, that it may equally and regularly receive the black preparation. The paper intended to receive the impression should now be in readiness, and the specimen must be carefully removed and placed on it, and great care must be taken that its position is not changed; this, too, must be again evenly and firmly pressed as before, and the impression will be complete, and must be laid carefully aside to become dry. A specimen or two can be tried on a spare sheet, in order to ascertain whether the blackened sheet is in a proper state of preparation before it is attempted to take a very careful impression. This is particularly valuable in preserving sketches of the leaves of rare and valuable plants.—*Gardeners' Magazine.*

New Seedling Cherries.—Mr. Elliott writes us, that Charles Pease, Esq., has fruited this year, for the third or fourth time, some seedlings, among which he has selected and made drawings of two that give promise of value, because of their period of maturity, which is after nearly every other kind, except the sour cherries, have ripened and gone.

"Cement Cisterns. — In household matters in the country, the use of rain water in almost every family is a necessity, because the well water is rarely soft enough for washing purposes. To secure rain water, cisterns are resorted to; and as I wanted one or more, I consulted a mason, who, after figuring and looking at my ground, which is a stiff clay about three feet deep, and then a shale or soapstone rock, he decided he could not build me a cistern of eight feet deep and six feet diameter at a cost of less than twenty-five to thirty dollars. Not disposed to pay that amount, I set my hired man to digging, and in one day he dug and shaped me out a cistern of the shape of a common iron cooking pot, eight feet deep, four feet diameter at top and bottom, and widening to six feet in center. This, in two hours' time the next morning, I plastered once over with one part water lime and two parts sharp sand, and covered the top with hewn oak posts. The next day, in one hour's time, I gave it a second but thin coat of plaster, in all taking one bushel and three pecks of water lime and double the quantity of sand—costing me, besides my own time, the sum of not quite five dollars.

I practiced this same course some twenty-six years ago on clean sandy soil, and the cistern is to this day perfect, and has never leaked.

Another cheap way of saving rain water is to take any old cask, coat the outside with coal tar, sink it in the ground, bedding the bottom and sides in clay well packed and at least six inches thick. It is possible that in sandy soil a mixture of the coal tar with sand immediately around the cask might make the cask water-tight. Were I now where I had sandy soil I would try it. A."

Transactions of the Indiana State Horticultural Society.—J. S. Dunlop, Esq., will please accept our thanks for a copy of Transactions of the Sixth Session of the Indiana Horticultural Society. In its records we recognize many of our old correspondents, and are pleased to read their sayings relative to fruits. In the death of George M. Beeler, the Society, as well as the country, lost one of its most valuable and enthusiastic as well as correct pomologists.

Gladiolus Bulbs.—In taking up and selecting gladiolus bulbs this coming fall, remember that bulbs of medium size, if well ripened, give the best blooms next year. Very small bulbs do not always bloom well, while some varieties afford very poor blooms on old and large bulbs.

Blight in Pear and Rot in Grape, etc.—A correspondent suggests that "much if not all the diseases termed blight in the pear, rot in grape, etc., may be attributable to diseased roots." He says, "Pear wood, often when making cuttings for grafts, is found blackened or discolored; and if the cuttings are made late in spring, the discoloration is greater at the base of the young shoot than at the top." He also says, "that he has often observed blight to attack those trees most on which he has in spring found the greatest discoloration. He regards this disease as coming from the roots, which may have been made unhealthy, either by excessive stimulants and late fall growths, or by destroying actively developing foliage in the summer or growing season."

The diseases attendant upon grape culture and pear growing are yearly becoming more and more formidable, and we shall be glad if any sustainable theory of their cause be brought out. We give the above, hoping some of our many skillful fruit-growers will report to us of their views of its tenability.

Perennial Plants.—The value of perennial flowering plants in every garden we have repeatedly touched upon, and urged as perhaps the greatest of any that make up the flower garden. We now say, make your arrangement for planting them this fall. Select out your list, send your order to a reliable dealer, dig deep and thoroughly manure the ground with well-rotted manure, adding, if you can, sods at the bottom, and plant in October.

Fruit Houses.—The dearth of fruits in most sections this season convinces us more and more of the policy of erecting fruit houses, wherein to grow fruits for the supply of the tables of amateurs and those of wealth. To the amateur or private gentleman the fruit house is a never-ceasing pleasure as a resort, while the fruit in and out of season is a great and real luxury. The commercial grower may command prices remunerative by arranging for the ripening of his fruit when that grown in the open air can not be had. Large houses are much the most profitable, and as they can be constructed and heated at a comparatively moderate expense, no resort should ever be had to a small house, or one in which the trees are confined to pot culture, as pot culture involves constant attention and watering, dressing, etc., etc.; while if the trees are planted out in the border they in great measure take care of themselves.

What manure had I best use for Raspberries? Edgar.

The common practice has almost always been to use well-rotted animal manure, applied and worked in in the autumn; but we have manured with salt and bone meal for the two past years, and had a good strong growth of cane, large and fine fruit, and less quantity of weeds than when we used the barn-yard manure.

We apply the salt and meal early in spring, before vegetation starts, and as soon as the ground opens, we work up with a cultivator or small plow.

Evergreens among Orchard Trees.—Heretofore, planting evergreens among orchards of fruit has been deemed incongruous, and undeserving the attention of planters, or as presenting a careless waste of land without system or order in arrangement. From some observations we have made this season, however, and from records of several of our correspondents, we predict that but a few years will find many orchards interspersed irregularly with evergreen trees. Closer planting than heretofore recommended we have no doubt will prevail, as our fruit-growers study the devastating effects of too great exposure of the young trees to wind and sun. In most sections this year, while fruit bloomed and set abundantly, gradually, little by little, it has dropped, until many

a grower who in early summer counted on bushels can now count fruit only by the dozens. We have watched this falling of the fruit pretty carefully, and while we have no doubt that too great an amount of bloom impaired the vitality and was the first cause of failure, yet observation has taught us that trees partially shaded and screened by evergreens, or by close planting with other trees, have retained their fruit, as a rule, better than those more exposed to the full rays of the sun at all points, and the withering blasts of wind, no matter from what quarter. Horticulturists at the West have for some time advocated hedge screens as a protection to their orchards, and we have no desire to undervalue them, but would increase and extend them, while at the same time we would, in planting an orchard of five hundred trees, make one fifth the number evergreens. Again: believing in closer planting, we a few years since set one dwarf pear orchard, four by eight feet, and an apple orchard of Standards, twelve feet apart. The pears are, it is true, growing one way pretty closely together, yet they are all healthy, and this season have retained their fruit better than others which are more widely separated.

HAMMONTON, *July* 5, 1867.

MESSRS. EDITORS—I see in the July HORTICULTURIST you would be pleased to hear from any subscriber who has tried bagasse, or the offal from the sorghum mill. In reply, I would say that, three years ago this past spring, I tried it, and paid very dear for the mulch. I lost over eighty pear-trees out of one hundred that I tried it on. I planted an orchard of pears and apples for a neighbor of mine, and as I did the planting I warranted the trees. He said to me, as I was planting, "There is plenty of bagasse—use it as a mulch around the trees." Consequently I lost most all the pears. They leafed out and looked fine at first, but early in July they blackened up, and the leaf looked as if scorched. As soon as I found it out, we removed the bagasse from the trees. With the exception of three or four, the apples all lived it through, but did not recover until the next year. The pears most all died right away. Some twelve lingered through, but to-day are not as good as trees set the following spring; and these were one year younger when set than the former, making two years difference in age. The man came to my nursery and selected his trees to fill up, stating he would take younger trees and try them. He did not think it was the bagasse, but some other cause. But I planted pear-trees the day before, on the afternoon of the same day, and several days following, on similar land, trees dug from the same nursery rows, but without mulching, and did not lose more than the general average from transplanting. It could not possibly be anything else than bagasse that killed the trees. I have since seen it tried on Lawton blackberries, with the same consequences. If this is of any service to the HORTICULTURIST readers, you are at liberty to use it.

Yours, very truly,

JOHN H. HOLDING.

[As our correspondent says, we asked for information relative to the use of bagasse as mulch for trees, and we thank him for this record. To our mind, however, it proves nothing against the use of bagasse, as no test was made of other material for mulching at the same time. Our own impression is, that no mulch should be applied around a newly planted tree until near the close of the growing season, say last of June or first of July, but the ground should be frequently stirred and kept loose, open to action of sun, air, and light, until the period of great heat and drought, and then as soon as the terminal buds commence forming, put on the mulch to aid in a larger and better action of the roots, and more even and better development of bud and wood.]

WINE EXHIBITION.—At the May meeting of the Mississippi Valley Grape-Growers' Association, it was determined to hold an exhibition of wines in this city (St. Louis) at the same time as the approaching meeting of the American Pomological Society.

The exhibition will be open to all the States comprising the Valley of the Mississippi, and it is the wish of the Association that this call shall be considered as an invitation to all the wine growers and manufacturers of this region to bring in their samples and contribute each his part toward making up a collection of wines which shall fairly exhibit this important industry in all its branches.

This gathering of the horticulturists of the whole country will afford grape growers and wine makers a rare opportunity of submitting the qualities of American wines to the test of intelligent tastes.

The wine producers of the Mississippi Valley invite a comparison of the wines grown between the Alleghanies and the Rocky Mountains with those produced in any other part of the world, and are satisfied to abide the verdict which may be rendered by the appreciative palates of connoisseurs.

For the purpose of comparing our wines with those of other sections of the United States or of Europe, contributions of wines from all quarters will be cordially received.

C. W. SPALDING,
Pres. M. V. Grape-Growers' Association.

PROFITS OF GOOSEBERRIES.—A friend writes us saying that from a row of the Houghton Gooseberry bushes, one hundred and ninety feet long, two years planted out, he has this season gathered and sold four and one quarter bushels of fruit, sold at two and one half dollars a bushel, giving him ten and a half dollars, or at the rate of about three hundred and fifty dollars per acre. While this may be counted a good yield for the age of the bushes, it is not much over one half of what full-grown bushes will yield, and the price we consider a very small one for the fruit. Even at this, however, it will be seen that gooseberry growing is quite as good in the way of money returns as most other fruit crops.

THE following is an extract of a letter received from Wilmington, Ill.:

"Weather very dry. Oats and wheat good, and mostly harvested. Apple crop very *short* and wormy; blasted badly in early spring. Grapes splendid: Concord, Delaware, and Hartford Prolific vines loaded with fruit. I have one Delaware vine, four years old, that has over 100 lbs. perfect fruit on it, which is too much for it to bear; but the vine has the best of care. I have about three acres in bearing of Concord, Hartford Prolific, and Delaware. The Catawba, Isabella, and Clinton are rotting. No show of it on other varieties. I put out ten acres this spring, mostly Concord, say three-quarters Hartford Prolific, Delaware, Ives' Seedling, Norton's Virginia, Diana, Rebecca, *Iona;* am fixing for six acres Delaware in spring; am satisfied it is *the grape.* The trouble has been in the quality of vine sent out. I have twenty-five fine vines out of 125 set. Where some of them cover a space of twelve or fourteen feet, of splendid healthy vines, loaded with fruit, others seem again not over a *foot high*, and have same care every way.

"R. W. WATERMAN."

KITTATINNY BLACKBERRY.—At a meeting of the committee of the invited guests of E. Williams, held at Newton, N. J., on the 8th ult., consisting of P. T. Quinn, J. J. Thomas, L. Wetherell, R. S. Swords, and Geo. E. Woodward, the following resolution was proposed and carried:

Resolved, That the thanks of all fruit-growers are eminently due to Mr. Williams for his labors in introducing the Kittatinny blackberry, and that we do most cordially give our approval to this excellent variety of a fruit so valuable, believing as we do that it meets in quality, productiveness, and hardiness especially all that is claimed for it; in short, that it possesses everything required for a first-class berry.